

ABSTRACT

Method and apparatus for post-cure correction (PCC), either partial or substantial, of various tire nonuniformities which have been detected during a tire manufacturing process by a tire uniformity machine (TUM), preferably testing a tire which has been nominally cooled down (i.e., nominally completed curing) after removal from a tire curing mold. The method comprises the steps of: (1) selecting the tire during a tire manufacturing process after the selected tire has been rejected by a tire uniformity test due to at least one tire uniformity defect; (2) providing 360 degree circumferential tread restraint which holds the tread in an ideal tread shape, concentric to the axis of rotation and nominally perpendicular to the equatorial plane; (3) sealingly holding the beads concentric to, and equidistant from, the axis of rotation, and symmetrically spaced about the equatorial plane; and (4) inflating the selected tire to a controlled pressure, and holding the controlled pressure for a controlled time while the tread is restrained and the beads are sealingly held. An optional additional step before the inflating step (4) comprises heating the selected tire, preferably to a controlled temperature above a glass transition temperature of the tire's ply cord material; and before the end of the controlled time cooling the selected tire below the glass transition temperature. The method steps can be repeated if the corrected tire is still rejectable as determined by a repeated TUM test. An apparatus (PCC device) is provided suitable for implementing the inventive method.